

CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application. Please amend the claims as follows:

1. (Currently Amended) A heavy load support system, ~~characterized in that it comprises, comprising:~~

an object (4) and a support member (2) for supporting the object (4);

a hydraulic oil seal mechanism (S) for preventing leakage of hydraulic oil, which is supplied into an hydraulic pocket (5) defined between slide surfaces (3) (4) respectively formed on oppositely facing sides of the object (4) and the support member (2);

a connection means (37) for connecting to the hydraulic pocket (5) a hydraulic oil supply means (9) for supplying hydraulic oil thereto; and

a hydraulic oil supply stopping means (G) for stopping supply of hydraulic oil into the hydraulic pocket (5) at the time when a given clearance has been created between the slide surfaces (3) (4).

2. (Currently Amended) The heavy load support system according to claim 1, ~~characterized in that~~ wherein the hydraulic oil supply stopping means (G) comprises:

a check valve (10) that includes a steel ball (10a) for being brought into press contact with a tapered conduit (2a) being in communication with the hydraulic pocket (5) and having a tapered shape, in such a manner as to be able to be contacted thereto and separated therefrom a coil spring (10b) for urging the steel ball (10a) towards the tapered conduit (2a) in a press contact direction, and a push rod (1a) for pushing the steel ball (10a) in such a direction away from the tapered conduit (2a); wherein

the push rod (1a) is placed in a hydraulic oil supply passage (5a) through the hydraulic pocket (5), and has an upper end disposed facing the slide surface (3) of the object (4) and a lower end disposed facing the steel ball (10a) within the tapered conduit (2a).

3. (Currently Amended) The heavy load support system according to ~~any one of claims 1 and 2~~ claim 1, ~~characterized in that~~ wherein a pressure control valve (P) for stopping supply of hydraulic oil into the hydraulic pocket (5) at the time when hydraulic

oil being supplied into the hydraulic pocket (5) has reached a required pressure is provided.

4. (Currently Amended) The heavy load support system according to ~~any one of claims 1 to 3~~ claim 1, characterized in that wherein a pressure adjusting means (11) for adjusting the pressure of the hydraulic pocket (5) to a required pressure is disposed in the hydraulic oil supply passage (5a) to the hydraulic pocket (5), and the hydraulic oil supply passage (5a) to the hydraulic pocket (5), which passage contains the pressure adjusting means (11), constitute a closed fluid passage.

5. (Currently Amended) The heavy load support system according to ~~any one of claims 1 to 4~~ claim 1, characterized in that wherein a hydraulic jack (12) that is actuated in a vertical direction is disposed above or below the hydraulic pocket (5).

6. (Currently Amended) The heavy load support system according to ~~any one of claims 1 to 5~~ claim 1, characterized in that wherein the slide surface (4) of the support member (2) has a ring groove (7) for fittingly receiving an elastic ring (6) for preventing leakage of hydraulic oil, and the elastic ring (6) is fitted, along with a blocking ring (8), in the ring groove (7), in which the blocking ring (8) is disposed outside the elastic ring (6) and fitted on the elastic ring (6) for blocking the elastic ring (6) from coming out from the ring groove (7), and

when hydraulic oil supplied into the hydraulic pocket (5) has reached a required pressure, the blocking ring (8) is, along with the elastic ring (6), brought into press contact with the slide surface (3) of the object (1) so as to block the coming-out of the elastic ring (6).

7. (Currently Amended) The heavy load support system according to claim 6, characterized in that wherein the blocking ring (8) has an inner circumference whose upper edge is provided with a coming-out blocking portion (8a) that is formed into a radially inwardly curved shape so as to be lockingly engaged with the elastic ring (6) around an outer circumferential edge thereof through pressure contact for prevention of a radially outward deformation of the outer circumferential edge of a portion of the elastic ring (6), which portion contacting the object (1).

8. (Currently Amended) The heavy load support system according to ~~any one of claims 1 to 5~~ claim 1, characterized in that wherein the support member (2) has a ring

groove (7) for fittingly receiving an elastic ring (6) for preventing leakage of hydraulic oil, and the elastic ring (6) has an outer circumference whose upper edge is provided with a hardened portion (6a) integrally formed therewith for blocking the elastic ring (6) from coming out from the ring groove (7), and

when hydraulic oil supplied into the hydraulic pocket (5) has reached a required pressure, an upper surface of the hardened portion (6a) is brought into press contact with the slide surface (3) of the object (1) in surface-to-surface contact, and a side surface of the hardened portion (6a) is brought into press contact with an outer inside wall surface (7a) of the ring groove (7) in surface-to-surface contact, thereby blocking the coming-out of the elastic ring (6).

9. (Currently Amended) The heavy load support system according to ~~any one of claims 1 to 5~~ claim 1, ~~characterized in that wherein~~ the slide surface (4) of the support member (2) has a ring groove (7) for fittingly receiving an elastic ring (6) for preventing leakage of hydraulic oil, and the ring groove (7) has an outer inside wall surface (7a) whose upper portion is provided with a coming-out blocking portion (7b) that is lockingly engaged with an upper edge of an outer circumference of the elastic ring (6) so as to block the elastic ring (6) from coming out from the ring groove (7) at the time when hydraulic oil supplied into the hydraulic pocket (5) has reached a required pressure.